

Santa Barbara Museum of Natural History
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GYNANDROMORPHIC *POLITES* SKIPPERS

(HESPERIIDAE)

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DURING THE PAST 30 YEARS of field collecting Michigan lepidoptera, the family HesperIIDae has been one of my favorites. Therefore, it was unique that during this period only two gynandromorph HesperIIDae skippers were collected: *Polites mystic* (Scudder), Otsego County, 17 June 1962, and *P. origines* (Fabricius), Monroe County, 1 July 1965. The colored plates reveal most of the unusual characteristics; however, the following comments will further describe the two specimens.

Polites mystic

The female pattern on the left side of the forewing is slightly atypical. The costal area, extending from the basal area to just beyond the apical spots, is tawny, instead of the predominantly fuscous on typical females. Otherwise, the female portion is within the range of normal patterns found in this locality.

The male right side of the forewing is slightly deformed with a pronounced curve in the basal half of the costal edge, and a more rounded anal angle. There is a slight interruption of the tawny costal area just basal of the apical spots. The hindwings, dorsally, are not noticeably different as compared to normal specimens; nor are there appreciable differences on the ventral surfaces. Dissection of the genitalia revealed that it is a female.

Polites origines

At first glance, in most respects the specimen appears to be a male. The left dorsal surface of the forewing exhibits more fuscous scaling than the right side, especially pronounced in the costal area. Also, the left stigma is broken (best seen under magnification) at the CU_2 vein, and the stigmal patch is reduced in area. There are no differences on the hindwing dorsal surfaces, nor on the ventral surfaces. It was the thick, heavy abdomen that called my attention to the specimen in the field. Dissection of the genitalia has since indicated that it is a female, filled with ova, with some abnormal development of the post-vaginalis as compared to a normal female.



Polites origines. Top—Gynandromorph, Monroe Co., Mich., 1 July 1965;
Bottom—Male, Monroe Co., 1 July 1965. (leg. M. C. Nielsen)

A review of the literature discloses that the gynandromorph phenomenon in lepidoptera is apparently uncommon. Scudder (1889) cited a report by Dr. Hagen of 31 gynandromorph species, mostly European, in the Papilionidae, Pieridae, Lycaenidae, Nymphalidae and Satyridae in which most showed complete bilateral distinction. He suggested that the left side is usually female, and in a few cases, one side will have mixed sexual differences. Ford (1945) illustrated two butterfly species, bilateral gynandromorphs, in which the female is expressed on the left dorsal surfaces, and two species that had traces of the other sex. Both Emmel (1964) and Opler (1966) figured a *Colias* and *Lycaena*, respectively, in which the female is on the right dorsal surfaces. There have been fewer reports of gynandromorphs in the moths. Bilateral gynandromorph moths have recently been reported by Hessel (1964), Muller (1966) and Blanchard (1969) in which the specimens exhibit female characteristics on the right dorsal surfaces. In most of the above references, these authors did not report the dissection of the genitalia to confirm the sex.

It would appear that these two skippers may be the first reported Hesperiidae gynandromorphs. Unfortunately, amateur lepidopterists do not usually favor skippers in their field activities, which may account of the paucity of records. As one can see, these skipper gynandromorphs are not as striking in appearance as compared to some of the other gynandromorphs figured in the above references. Hopefully, other collectors will be alerted by this experience and report their findings.

LITERATURE CITED

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Polites mystic. Top—male, Otsego Co., Mich., 19 June 1964; Middle—Gynandromorph, Otsego Co., 17 June 1962; Bottom—Female, Otsego Co., 6 July 1958. (leg. M. C. Nielsen)